

Response
Application No. 10/720,110
Attorney Docket No. 032135

AMENDMENTS TO THE CLAIMS

The listing of claims below replaces all prior versions of claims in the application.

Listing of Claims:

Claim 1 (Cancelled).

Claim 2 (Original) An apparatus for generating three-dimensional model data of a structural member constituting a machine tool in which a slide is movable in directions of at least first and second axes that are perpendicular to each other, wherein

said apparatus comprises:

first, second, and third imaging means, each of said imaging means comprising two imaging sections which are spaced apart from each other by a predetermined distance, said structural member being imaged by said imaging sections to generate two-dimensional image data; and

model data generating means for generating three-dimensional model data including at least shape data which define a three-dimensional shape of said structural member, on the basis of sets of two two-dimensional image data which are generated respectively by said first, second, and third imaging means,

said first imaging means is configured so that said two imaging sections are arranged along said second axis or a third axis which is perpendicular to said first and second axes, and said imaging sections image said structural member in a direction of said first axis,

said second imaging means is configured so that said two imaging sections are arranged along said first axis or said third axis, and said imaging sections image said structural member in a direction of said second axis, and

said third imaging means is configured so that said two imaging sections are arranged along said first axis or said second axis, and said imaging sections image said structural member in a direction of said third axis.

Claim 3 (Original) An apparatus for generating three-dimensional model data according to claim 2, wherein said apparatus further comprises model data storing means for previously storing three-dimensional model data of a whole of said machine tool in which three-dimensional model data of plural structural members constituting said machine tool are correlated with one another, and

said model data generating means generates three-dimensional model data of a structural member which is imaged by said first, second, and third imaging means, on the basis of two-dimensional image data that are generated for said imaged structural member, calculates a coordinate position at which said imaged structural member is to be positioned on a three-dimensional model of the whole of said machine tool, and updates the three-dimensional model

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data of the whole of said machine tool on the basis of the calculated coordinate position data, the three-dimensional model data of said imaged structural member, and the three-dimensional model data of the whole of said machine tool which are stored in said model data storing means, thereby generating three-dimensional model data of the whole of said machine tool including said imaged structural member.

Claim 4 (Amended) An apparatus for generating three-dimensional model data according to ~~any one of claims 1 to 3~~ claim 2 or 3, wherein the three-dimensional model data of said structural member include information related to a movement axis and/or a rotation axis which is set with respect to said structural member.